The Biological Control of Insects with a Chapter on Weed Control. By Harvey L. Sweetman, Ithaca, N. Y., Comstock Publishing Company, Inc., 1936. xii + 460 pp. 142 figs. $3.75.

DeGeer, it is recorded, once made the statement before the Academy of Sciences at Stockholm, that, "We shall never be able to guard ourselves against insects but by means of other insects." There is no doubt about entomologists in general, with the possible exception of some investigators holding different opinions, welcoming a book covering a subject that is not only popular but of scientific and practical interest as well. This is the first time that the literature of biological control has been brought together and summarized, and such summaries are of distinct value not only to scientists and specialists who are familiar with the literature, but to students, in giving them a broad background.

Dr. Sweetman's book covers the theoretical basis of biological control, the use of resistant hosts, the use of bacteria, fungi, viruses, protozoa, nematodes, parasitic insects and predatory invertebrate animals, and there are chapters on the use and introduction of insect parasites and predators, the results of biological control experiments and the biological control of pest plants. In all there are fourteen chapters, a glossary, a list of references and an index.

To those occupied with specific phases of investigational work related to biological control, Dr. Sweetman's accounts may seem to be unduly condensed, but it should be remembered that such curtailment was necessary in view of the size of his field. It should also be remembered that in some phases, the conclusions of experimental work are in a more or less fluid state and that new facts are constantly being developed. For example, the artificial culture of *Neoplectana glaseri* is now taking place, not on a potato medium, but on a medium of ground veal, which at present appears to be quite successful and which has distinct advantages over the potato medium. Such changes in technique, however, frequently take place quite suddenly, and can only be incorporated into future editions of text books.

That there is much more to biological control than the mere introduction and dissemination of beneficial species is plainly brought out in Dr. Sweetman's work. It is somewhat discouraging to note, in his chapter on results, that what he considers highly successful control, and successful control, in the United States, have so far been confined to only three cases in California. For example, as far as adequate results are concerned, the biological control of the gypsy moth in this country is still in the experimental stage. Of course, biological control is young. It has very little early history and in years to come, when accurate and adequate data have accumulated, and when true conclusions can be drawn, it may be possible to study such cases comparatively and to arrive at some basic conclusions relative to where and under what conditions biological control is likely to be successful.

Dr. Sweetman's book is carefully and thoughtfully written, and should appeal to all entomologists and teachers of entomology who are anxious to add to their store of information. H. B. W.